Amendments to the Specification

Please amend the following paragraphs as shown:

[0083] The use of SID packet is particularly advantageous when the storage model is implemented in a storage system coupled to a network, each storage area is assigned a network address, and the storage system is adapted to examine packets comprising network addresses assigned to storage areas within the storage system. As shown in FIG. 8, storage system 800 is coupled to network 890 via network interface 801. The storage provided by system 800 comprises allocated areas 810B and 810D, and unallocated areas 810A, 810C, and 810E. Network interface 801 is assigned network address 50. Storage area 810B is assigned network address 51. Storage area 810D is assigned network address 52. Storage block 821 is identified by the ID (51,1), block 822 by ID (51,3), block 823 by ID (52,1), and block 824 by ID (52,2). Thus, storage system 800 is assigned three network IDs, two of which are assigned to storage areas. Any packet having a destination address of 50, 51, or 52 should be examined by system 800 with packets addressed to addresses 51 and 52 being used to manipulate the contents of storage areas 810B and 810D respectively. In alternative embodiments, a storage system may comprise multiple connections to a network as shown in FIGS. 8B and 8C. In 8B, system 800B is coupled to network 890B via network interfaces 802A and 802B. Network address 50 is ~~a~~assigned to interface 802A, address 51 to 802B, and address 53 to allocated storage area 810F. Block 825 is identified by ID (53,1) and block 826 by ID (53,2). In 8C, system 800C is coupled to network 890C via network interfaces 803A, 803~~B~~C, and 803C and has three allocated storage areas, 810G, 810H, and 810J and six network addresses 50-55. Network address 50 is assigned to interface 803A, 52 to 803B, 54 to 803C, 51 to storage area 810J, 53 to storage area 810H, and 55 to 810G. It should be noted that in FIG. 8C there is ~~a~~one network interface for each network storage area. Although such an embodiment is a less preferred one, in such an instance a single address may assigned to each combination of interface and storage area such that addresses 51, 53, and 55 are not needed.

[0084] It should be noted that the storage systems 800A, 800B, and 800C uses network addresses to access internal storage areas. Devices using network addresses to access internal storage areas (NAIS devices) are not limited storage systems and devices. As an example, a NAIS device such as a digital camera may simply comprise internal memory that is being made accessible to other devices. Although it contains storage, the primary purpose of digital camera is not to provide storage to other devices and, because of the limited amount of memory it has, would typically not function well in that capacity. However, if the camera is a NAIS device, another device may be able to access and/or manipulate the contents of the storage within the camera using the methods described herein.

[0085] It is currently contemplated that the use of SID packets is most advantageous when the storage model is implemented in a NAIS device such as a storage system coupled to an IP network, and the network addresses assigned to storage areas are IP addresses. In FIG. 9 storage system 900 comprises network interface 901 and allocated storage areas 910A and 910B, and is coupled to IP network 990. Network interface 901 is assigned MAC address 00:0A:B1:01:FC:22 and IP address 3.3.3.3. Storage area 910A has been assigned IP address 3.3.3.4, and are 910B address 3.3.3.5. Storage block 911 is identified by the ID (3.3.3.4, 1), and block 914 by ID (3.3.3.4,4). For storage devices stored on IP networks the network address of the network interfaces and/or the storage areas may be dynamically allocated. As an example a network address server such as a DHCP server can be used to dynamically allocate IP addresses.

[0101] A majority of the PSAN packets will be tokened and/or split-ID packets as shown in FIGS. 12-14. In FIG. 12, a packet 1200 comprises a command 1201, and an authentication token 1202. In preferred embodiments, token 1202 comprises and ASCII 1202A followed by a delimiter 1202B. In FIG. 13, a packet 1300 comprises a command value 1301 and a segment of a split-ID 1303. In FIG. 14, a packet 1400 comprises a command value 1401 and both a token (1402A and 1402B) and a segment of a split-ID 1403. In preferred embodiments, PSAN packets will be encapsulated within lower level protocol packets such as IP-UDP or IP-TCP packets, and a second segment of any PSAN split-ID packet will comprise the network address of the encapsulating packet. In

a most preferred embodiment, the second segment of a split-ID packet will comprise the destination IP-address of an encapsulating IP packet.

[0102] In preferred embodiments the storage blocks of a storage area of a device will be sequentially numbered in a manner similar to the use of logical block addresses ("LBAs") in disk partitions, and the segment 1403 will comprise the equivalent of the LBA of the storage block within its storage area. As such, segment 1403 may be referred to herein as a "LBA", but in such instances it should be kept in mind that segment 1403 may be any identifier that, in conjunction with a segment found in an encapsulating packet, uniquely identifies a storage block. Since the network address will, in preferred embodiment comprise and IP-address, the segment of a split-ID found in an encapsulating packet may be referred to herein as an IP-address, but it should be kept in mind in such instances that the segment located in an encapsulating packet may be any identifier that, in conjunction with segment 1403, uniquely identifies a storage block.

[0110] The Name is preferably a character string or other unique identifier to be associated with an allocated storage area in addition to any associated IP Address. It is preferred that IP addresses bey dynamically allocated to storage areas. As such, accessing a storage area will generally first required identifying the IP address associated with that storage area. By specifying a Name when requesting allocation of a storage area, the specified name can be used at a later time to determine the IP address associated with that storage area even if the IP address is not the IP address originally associated with the storage area.

[0114] In a preferred embodiment a REQUEST command comprising a "0" value LBA is used to request that a device report its capabilities. In preferred embodiments any response to such a request will comprise one or more of the following: Version, Total Capacity, Available Capacity, Speed, Reliability, Portability, and QoS Capability. In some instances status requests need not require a validation of the source of the packet and as such, the token may comprise a NULL value.

[0117] A preferred ACK packet 1800 comprises, as shown in FIG. 18, a control portion 1810. The control portion comprises a command 1801, and a LBA 1803. This command acknowledges a successful transfer and need only be used when a TRANSFER command is not issued in response to a REQUEST command. In such instances receipt of a TRANSFER command is essentially and instruction to write the contents of the data portion of the packet into the identified storage block. Once that process is complete, an ACK message can be sent to the source of the TRANSFER command to communicate that the command has been executed.

[0134] A preferred NAME RESOLUTION RESPONSE packet 2700 comprises, as shown in FIG. 27, a control portion 2710 comprising a command 2701, a name 2709, and an IP address 2708. A NAME RESOLUTION RESPONSE packet is issued in response to a NAME RESOLUTION REQUEST as described above.

[0163] Referring to FIG. 36 a system comprising network 3610, digital camera 3621, video camera 3622, television 3630, DHCP server/NAT Bridge 3640, and NAIS storage device 3650 is shown. Cameras 3621 and 3622 obtain storage from NAIS 3650 and use that storage for storing digital pictures and videos. Television 3630, upon receipt of authorization from cameras 3621 and 3622 is able to be used to view the videos and photographs contained in cameras 3621 and 3622 and/or stored on NAIS 3650. NAIS 3650 obtains IP addresses for allocated storage areas from DHCP server/NAT Bridge 3640. NAIS storage devices 3550 has the preferred characteristics of NAIS storage devices described above. PSAN packets are used by the various devices for communications and data transfer across network 3610.